



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,263	08/21/2001	Charles Beck	2539/102	6454

2101 7590 12/05/2003
BROMBERG & SUNSTEIN LLP
125 SUMMER STREET
BOSTON, MA 02110-1618

EXAMINER

BISSETT, MELANIE D

ART UNIT PAPER NUMBER

1711

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/934,263	Applicant(s) BECK ET AL.	
	Examiner Melanie D. Bissett	Art Unit 1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20,25,26 and 31-37 is/are pending in the application.
- 4a) Of the above claim(s) 1-14,25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-20 and 31-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

1. The request filed on 9/5/03 for Continued Examination under 37 CFR 1.114 based on parent Application No. 09/934,263 is acceptable and an RCE has been established. An action on the RCE follows.
2. The rejections based on 35 USC 112 and 35 USC 102 have been withdrawn based on the applicant's amendments and arguments. New rejections on the merits follow.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 15-20 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. The term "predetermined degree of finish" in the third and last lines of claim 15 renders the claims indefinite. From this term, the extent of finish and the extent of predetermination are unclear. It seems that some degree of finish would be predetermined to some extent in any case, since the effects of molding are somewhat predictable. Also, by whom would the degree of finish be predetermined? Would the inherent finish of a molded specific compound be deemed predetermined since the molding of a specific material is reproducible?

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. Claims 15-16, 19-20, 31-33, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al. in view of Crast et al.
8. Aizawa discloses an in-mold coating process, where a mold surface is sprayed with a polyurethane sealer coating film and a polyurethane primer film, the mold is closed, the films are cured, and a material for forming a polymeric substrate is injection molded into the enclosed space and cured (col. 8 lines 31-52). This polymeric substrate material includes a fibrous filler (col. 8 lines 52-54). Table 3 shows the reaction and molding conditions.
9. Although the reference does not note the specific use of an unpigmented sealer layer, it is well known in the art that pigments are added to provide color. The minute amount of pigment present in the sealer layer would not have affected the properties (other than coloration) of the coating. Thus, it is the examiner's position that it would have been prima facie obvious to use a sealer coating without added pigment as motivated by desired coloration.
10. Also, the reference notes the spraying of mixed reactant/solvent materials but does not specify the mixing of a polyol/solvent component with a polyisocyanate/solvent component. Crast teaches that such methods are well known in the art for storing the components separately (col. 2 lines 23-33). Because the components of Aizawa's invention appear to be mixed prior to spraying, it is the examiner's position that it would

have been prima facie obvious to mix the individual reactants with solvent prior to reaction to aid in processing the stored separate components. Regarding the limitation that the surface should have a substantially "predetermined degree of finish", note that the coating layers of the reference have "good finish" due to the amount of aluminum chosen for incorporation or the thickness of the films (col. 6 line 50-col. 7 line 61; col. 11 lines 1-9). Thus, the finish of the surface has been envisioned and predetermined.

11. Furthermore, the reference does not specify solids contents by volume of the coating components. However, it is well known in the coating art that the dilution of viscous materials with solvents aids in the spraying of a coating. Thus, it would have been prima facie obvious to use any solids content necessary to optimize spraying capabilities.

12. Regarding the thickness of the coatings, the reference teaches that primer layers should have thicknesses of 15-25 μm (col. 9 line 67-col. 10 line 60), sealing layers should have thicknesses of 25-35 μm (col. 11 lines 1-9), and exemplified topcoat layers have thicknesses of 25-45 μm (tables). Thus, the total coating layers would have a thickness encompassing the applicant's claimed range. Also, since the in-mold coated layers are noted as having a smooth appearance, it is the examiner's position that the mold would inherently possess a "minimal surface roughness".

13. Claims 17-18 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al. in view of Crast et al. as applied to claims 15-16 and 19-20 above, and further in view of Matzinger et al.

14. Aizawa and Crast apply as above, failing to mention the use of a barrier layer between the substrate and clear coating. Matzinger discloses a barrier web layer that acts as a protective coating for a substrate (col. 4 lines 19-25). Matzinger also notes that the materials of the invention are compatible with the invention in Aizawa et al. (col. 5 line 33-col. 6 line 18). Thus, it is the examiner's position that it would have been prima facie obvious to include a barrier layer in the invention of Aizawa and Crast to provide additional protection for the substrate.

15. Claims 15-16, 19-20, 31-33, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al. in view of Crast et al. and Makhoul et al.

16. Aizawa discloses an in-mold coating process, where a mold surface is sprayed with a polyurethane sealer coating film and a polyurethane primer film, the mold is closed, the films are cured, and a material for forming a polymeric substrate is injection molded into the enclosed space and cured (col. 8 lines 31-52). This polymeric substrate material includes a fibrous filler (col. 8 lines 52-54). Table 3 shows the reaction and molding conditions.

17. The reference notes the spraying of mixed reactant/solvent materials but does not specify the mixing of a polyol/solvent component with a polyisocyanate/solvent component. Crast teaches that such methods are well known in the art for storing the components separately (col. 2 lines 23-33). Because the components of Aizawa's invention appear to be mixed prior to spraying, it is the examiner's position that it would have been prima facie obvious to mix the individual reactants with solvent prior to

reaction to aid in processing the stored separate components. Regarding the limitation that the surface should have a substantially "predetermined degree of finish", note that the coating layers of the reference have "good finish" due to the amount of aluminum chosen for incorporation or the thickness of the films (col. 6 line 50-col. 7 line 61; col. 11 lines 1-9). Thus, the finish of the surface has been envisioned and predetermined.

18. Also, the reference does not specify solids contents by volume of the coating components. However, it is well known in the coating art that the dilution of viscous materials with solvents aids in the spraying of a coating. Thus, it would have been prima facie obvious to use any solids content necessary to optimize spraying capabilities.

19. Furthermore, Aizawa teaches the use of a topcoat in the invention (col. 8 lines 31-61). However, Aizawa does not seem to indicate the spraying of the topcoat into the mold during the in-mold coating process. Makhoul teaches that polyurethane dispersion coatings with or without pigments may be used in an in-mold coating process to provide smooth, defect-free coatings on a fiberglass-reinforced surface (col. 7 lines 48-62; col. 8 line 46-col. 9 line 16). The articles having the outer coating exhibit good chip resistance and adhesion to other coating layers. Thus, it is the examiner's position that it would have been prima facie obvious to use a pigment-free polyurethane coating as an outer layer in the in-mold coating process to provide an outer protective layer. Motivation for including the layer in the in-mold process as opposed to a post-mold process would have been to eliminate extra post-molding process steps.

20. Regarding the thickness of the coatings, the reference teaches that primer layers should have thicknesses of 15-25 μm (col. 9 line 67-col. 10 line 60), sealing layers should have thicknesses of 25-35 μm (col. 11 lines 1-9), and exemplified topcoat layers have thicknesses of 25-45 μm (tables). Thus, the total coating layers would have a thickness encompassing the applicant's claimed range. Also, since the in-mold coated layers are noted as having a smooth appearance, it is the examiner's position that the mold would inherently possess a "minimal surface roughness".

21. Claims 17-18 and 34-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aizawa et al. in view of Crast et al. and Makhlouf et al. as applied to claims 15-16 and 19-20 above, and further in view of Matzinger et al.

22. Aizawa and Crast apply as above, failing to mention the use of a barrier layer between the substrate and clear coating. Matzinger discloses a barrier web layer that acts as a protective coating for a substrate (col. 4 lines 19-25). Matzinger also notes that the materials of the invention are compatible with the invention in Aizawa et al. (col. 5 line 33-col. 6 line 18). Thus, it is the examiner's position that it would have been prima facie obvious to include a barrier layer in the invention of Aizawa, Crast, and Makhlouf to provide additional protection for the substrate.

Response to Arguments

23. In response to the applicant's arguments that Aizawa does not produce the topcoat by in-mold coating method, the examiner has combined Aizawa with a secondary reference to teach the conventionality of such a process.

24. Regarding the applicant's arguments that the sealing layer cannot act as a clear coat, it is the examiner's position that the removal of pigment from the sealing layer would have been obvious for the reasons stated above. Such an un-pigmented sealing layer would inherently act as a "clear coat".

25. In response to the applicant's arguments that Aizawa does not teach a "predetermined degree of finish", the Aizawa reference notes the smooth finish of the sealer and primer layers due to thickness and aluminum particle content. Thus, a finish has been predetermined. The limitation is a relative term and as such is given the broadest interpretation possible. Thus, any degree of finish anticipated by the inventors meets the limitation, regardless of the use of a releasing agent. Also, the combination of Aizawa with Makhoulf would yield the use of a topcoat with an internal release agent meant to prevent faults produced by the release agent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (703) 308-6539 or (571) 272-1068 after December 2003. The examiner can normally be reached on M-F 8-4:30.

Art Unit: 1711

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

mdb


RABON SERGENT
PRIMARY EXAMINER